

*Please provide the following information, and submit to the NOAA DM Plan Repository.*

**Reference to Master DM Plan (if applicable)**

*As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.*

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

**1. General Description of Data to be Managed****1.1. Name of the Data, data collection Project, or data-producing Program:**

2010 VA Information Technologies Agency (VITA)/VA Geographic Information Network (VGIN) Lidar: Eastern Shore, VA (Accomack and Northampton Counties)

**1.2. Summary description of the data:**

The Virginia Geographic Information Network (VGIN) contracted with Sanborn to provide LiDAR mapping services for Accomack and Northampton counties on the eastern shore of Virginia in the March of 2010. Utilizing multi-return systems, Light Detection and Ranging (LiDAR) data in the form of 3-dimensional positions of a dense set of mass points was collected for approximately 1090 square miles. Of this 1090 sq mile area, 663 sq miles are over land. Collection and delivery of the lidar data were required to meet the USGS LiDAR Guidelines and Base Specifications, version 13 classification scheme. The data available for download from the NOAA Digital Coast are classified as follows: 1 (Unclassified), 2 (Ground), 7 (Low Point/Noise), 9 (Water), and 10 (Ground points in close proximity to breaklines). This project was a cooperative effort funded by The Nature Conservancy (TNC) - Virginia Office, the University of Virginia's Virginia Coast Long-Term Ecological Research Project (VCR/LT ER) and the U.S. Geological Survey (USGS). Users should be aware that this data was not required to be collected at low tide, therefore, there are some flightlines that were collected at low tide and adjacent flightlines that were not collected at low tide.

Original contact information:

Contact Name: John A. Scrivani

Contact Org: Virginia Information Technologies Agency (VITA)

Phone: 804.416.6207

Email: john.scrivani@vita.virginia.gov

**1.3. Is this a one-time data collection, or an ongoing series of measurements?**

One-time data collection

**1.4. Actual or planned temporal coverage of the data:**

2010-03-21 to 2010-03-28

**1.5. Actual or planned geographic coverage of the data:**

W: -76.03791, E: -75.240122, N: 38.044868, S: 37.072363

**1.6. Type(s) of data:**

*(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)*

**1.7. Data collection method(s):**

*(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)*

**1.8. If data are from a NOAA Observing System of Record, indicate name of system:**

**1.8.1. If data are from another observing system, please specify:**

**2. Point of Contact for this Data Management Plan (author or maintainer)**

**2.1. Name:**

NOAA Office for Coastal Management (NOAA/OCM)

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:**

NOAA Office for Coastal Management (NOAA/OCM)

**2.4. E-mail address:**

coastal.info@noaa.gov

**2.5. Phone number:**

(843) 740-1202

**3. Responsible Party for Data Management**

*Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.*

**3.1. Name:**

**3.2. Title:**

Data Steward

**4. Resources**

*Programs must identify resources within their own budget for managing the data they produce.*

**4.1. Have resources for management of these data been identified?****4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):****5. Data Lineage and Quality**

*NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.*

**5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible**

*(describe or provide URL of description):*

**Process Steps:**

- 2010-03-01 00:00:00 - Data Collection: Using an Optech 3100 Light Detection And Ranging (LiDAR) system, 101 flight lines of standard density (1.4 meter ground sample distance) data were collected over areas in Accomack, VA (approximately 1090 square miles). Multiple returns were recorded for each laser pulse along with an intensity value for each return. The data acquisition occurred in 6 missions between March 25, 2010 and March 30, 2010. (NOTE: The data received by the Office for Coastal Management had time stamps in GPS seconds of the week instead of adjusted GPS seconds as required by the USGS version 13 specification. The acquisition report stated that the collections occurred between March 25, 2010 and March 30, 2010. An analysis of the flight IDs and the GPS seconds of the week time stamps suggested this was not correct. The GPS seconds of the week increased with each flight line ID as would be expected until the week restarted on flight 101. Flight 1 GPS seconds of the week indicated a Sunday flight and flight 100 indicated a Saturday flight. GPS times were changed from seconds of the week to adjusted GPS times by assuming flights 1-100 were during GPS week 1576 and flight 101 was during GPS week 1577, covering March 21, 2010 to March 28, 2010). During the LIDAR campaign, the Sanborn field crew conducted a GPS field survey to establish final coordinates of the ground base stations for final processing of the base-remote GPS solutions.

- 2010-05-01 00:00:00 - Airborne GPS Processing: Airborne GPS data was differentially processed and integrated with the post processed IMU data to derive a Smoothed Best Estimate of Trajectory (SBET). The SBET was used to reduce the LiDAR slant range measurements to a raw reflective surface for each flight line. Airborne GPS is differentially processed using the GrafNAV V7.50 software by Waypoint Consulting of Calgary, Alberta, Canada.

- 2010-06-01 00:00:00 - IMU data Processing: IMU data provides information concerning roll, pitch and yaw of collection platform during collection event. IMU information allows the pulse vector to be properly placed in 3D space allowing the distance from the aircraft reference point to be properly positioned on the elevation model surface. The IMU data is processed using the PosPac V4.2 software

by Applanix Corporation of Richmond Hill, Ontario, Canada. The reflective surface is derived using the ALS Post Processor software by Leica Geosystems GIS & Mapping Division of Atlanta, Georgia.

- 2010-07-01 00:00:00 - LIDAR Point Classification The classification and quality control (QC) of LiDAR data is carried out using TerraScan software by Terrasolid Limited of Helsinki, Finland.

- 2014-06-20 00:00:00 - The NOAA Office for Coastal Management downloaded the las data from William and Mary in LAS 1.2 format. The data had GPS time issues and there was confusion on the dates of collection. The data downloaded by the Office for Coastal Management had time stamps in GPS seconds of the week instead of adjusted GPS seconds as required by the USGS version 13 specification. The acquisition report stated that the collections occurred between March 25, 2010 and March 30, 2010. An analysis of the flight IDs and the GPS seconds of the week time stamps suggested this was not correct. The GPS seconds of the week increased with each flight line ID as would be expected until the week restarted on flight 101. Flight 1 GPS seconds of the week indicated a Sunday flight and flight 100 indicated a Saturday flight. GPS times were changed from seconds of the week to adjusted GPS times by assuming flights 1-100 were during GPS week 1576 and flight 101 was during GPS week 1577, covering March 21, 2010 to March 28, 2010. NOAA OCM was able to fix the GPS time issues and from this information, was able to determine the date of collection. There was also some discrepancy in the Geoid used by Sanborn to convert from ellipsoid to NAVD88 elevations. Contacted Sanborn and confirmed that Geoid03 was used. The las files contained lidar elevation and intensity measurements. The data were in VA State Plane South, FIPS 4502, NAD83 coordinates, referenced to NAVD88 (Geoid03) vertical datum in feet. OCM performed the following processing for data storage and Digital Coast provisioning purposes: 1. The data were converted from VA State Plane South coordinates to geographic coordinates. 2. The data were converted from NAVD88 heights to ellipsoid heights using Geoid03. 3. The data were converted from vertical units of feet to meters. 4. The data were filtered for elevation outliers. 5. The data were zipped to laz format.

**5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:**

**5.2. Quality control procedures employed (describe or provide URL of description):**

## **6. Data Documentation**

*The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.*

**6.1. Does metadata comply with EDMC Data Documentation directive?**

No

**6.1.1. If metadata are non-existent or non-compliant, please explain:**

Missing/invalid information:

- 1.6. Type(s) of data
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
  - 7.1.1. If data are not available or has limitations, has a Waiver been filed?
  - 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

**6.2. Name of organization or facility providing metadata hosting:**

NMFS Office of Science and Technology

**6.2.1. If service is needed for metadata hosting, please indicate:****6.3. URL of metadata folder or data catalog, if known:**

<https://www.fisheries.noaa.gov/inport/item/50124>

**6.4. Process for producing and maintaining metadata**

*(describe or provide URL of description):*

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: [https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC\\_PD-Data\\_Documentation\\_v1.pdf](https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf)

**7. Data Access**

*NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.*

**7.1. Do these data comply with the Data Access directive?**

**7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?**

**7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:**

**7.2. Name of organization of facility providing data access:**

NOAA Office for Coastal Management (NOAA/OCM)

**7.2.1. If data hosting service is needed, please indicate:**

**7.2.2. URL of data access service, if known:**

<https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=2634>

[https://coast.noaa.gov/htdata/lidar1\\_z/geoid18/data/2634](https://coast.noaa.gov/htdata/lidar1_z/geoid18/data/2634)

**7.3. Data access methods or services offered:**

This data can be obtained on-line at the following URL:

<https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=2634>

This data set is dynamically generated based on user-specified parameters.;

**7.4. Approximate delay between data collection and dissemination:**

**7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**

## **8. Data Preservation and Protection**

*The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.*

**8.1. Actual or planned long-term data archive location:**

*(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)*

**8.1.1. If World Data Center or Other, specify:**

**8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:**

**8.2. Data storage facility prior to being sent to an archive facility (if any):**

Office for Coastal Management - Charleston, SC

**8.3. Approximate delay between data collection and submission to an archive facility:**

**8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?**

*Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection*

**9. Additional Line Office or Staff Office Questions**

*Line and Staff Offices may extend this template by inserting additional questions in this section.*